



City of Huntington Beach
Department of Community Development
Emergency Standby Generators for SFD
2000 Main Street, Huntington Beach, CA 92648
Office: (714) 536 - 5241 Fax: (714) 374 - 1647

Purpose

The Purpose of this guideline is to assist permit applicants in streamlining the permitting process for Residential Emergency Standby Generators.

Provide two copies of the job-specific plan showing the following:

❖ **Site Plan**

- 1.) Show the building and street name
- 2.) Show generator location and setback to property line (30" min required)
- 3.) Show Gas line location for connection or if propane tank, indicate size of tank

❖ **Electrical Line diagram**

Show receptacle, conduit type/size, wire type/size, conductors, equipment ground size, and existing or proposed electric meter.

❖ **Electrical load Calculations**

See page 3 for our Electrical Service Calculation form. Follow steps 1-9 to figure out the minimum amperage needed for your main electric meter.

❖ **Manufacturer's Specifications**

These specifications will show requirements and data for the generator being installed as well as a listing agency approval.

❖ **The following will be required only under certain conditions:**

- 1.) For indoor emergency generator units: Provide Mechanical/Plumbing plans showing Show venting, exhaust and combustion air requirements
- 2.) For units installed above ground (such as roof top or elevated deck):
 - a. Provide architectural, structural plans, and structural calculation for any screening requirements.
 - b. Provide structural analysis of the supporting structure showing existing roof structure can carry the weight and forces of the unit and any required platform.
 - c. Provide connection details and structural calculations for the anchorage between the generator and roof/deck structure per ASCE 7-16, Section 13.4 "Component attachments shall be bolted, welded, or otherwise positively fastened without consideration of frictional resistance produced by the effects of gravity."



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Permit requirements for installation related to Emergency Standby Generators.

	Plan review needed	Permit needed
Fire	For <u>propane gas tank over 5 gallon</u>	Contact Fire Department for more information. Steve Eros steve.eros@surfcity-hb.org Jacob Worthy jacob.worthy@surfcity-hb.org
Plumbing/Mechanical	Plan review required for <u>indoor installation</u> of emergency standby generators – need venting/exhaust. No plan review needed for outdoor natural gas hookup.	Yes – Plumbing permit only for natural gas Conditions: 1.) No plumbing permit needed for propane tank under 5 gallon 2.) If indoor unit – need both Mechanical & Plumbing permit
Electrical	Plan review required for <u>all</u> installation of emergency standby generators.	Yes – Electrical permit needed. Outdoor Location of unit needs to be approved by planning division.
Building (Architectural structural)	Plan review required for <u>rooftop or elevated deck</u> installation of emergency standby generators	Yes – Combination permit is required for above ground installation and/or screening requirement. No building permit needed for ground mounted unit.
Planning	For <u>outdoor</u> installation of emergency standby generators	Contact Planning division at permitcenter@surfcity-hb.org to inquire about <u>setback & screening requirements</u> .



2000 Main Street 3rd Floor
Huntington Beach, Ca 92648
714/536-5241

Optional Method Service Load Calculation for a Single Dwelling Unit (CEC 220.82)

1. General Lighting and Receptacle Loads 220.82(B)(1) Do not include open porches, garages, or unused or unfinished spaces not adaptable for future use.	3 x _____ = (sq ft using outside dimensions)	1	
2. Small-Appliance Branch Circuits 20.82(b)(2) At least two small-appliance branch circuits must be included. 210.11(C)(2)	1500 x _____ = (minimum of two)	2	
3. Laundry Branch Circuit(s) 220.82(B)(2) At least one laundry branch circuit must be included. 210.11(C)(2).	1500 x _____ = (minimum of one) NOTE: 1500 VA shall be included for each laundry branch circuit.	3	
4. Appliances 220.82(B)(3) and (4) Use nameplate rating of all appliances (fastened in place, permanently connected, or connected to a specific circuit), ranges, ovens, cooktops, motors, and clothes dryers. Convert any nameplate rating given in amperes to volt-amperes by multiplying the amperes by the rated voltage.	Do not include any heating or air-conditioning equipment in this section. water heater/ _____ / _____ dishwasher / _____ / _____ clothes dryer/ _____ / _____ disposal / _____ / _____ range / _____ / _____ EV / _____ / _____	4	
5. Apply 220.82(B) demand factor to the total of lines 1 through 4. _____ - 10,000 = _____ x 40% = _____ + 10,000 = (total of line 1 through 4)		5	
6. Heating or Air-Condition System 220.82(C) Use the nameplate ratings in volt-amperes for all applicable systems in lines 'a' through 'c'.	A) Air-Conditioning and cooling systems, including heat pumps without any supplemental electric heating: _____ x 100% = _____ B) Electric thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value. Systems qualifying under this section shall not be figured under any other selection in 220.82(C). _____ x 100% = _____ C) Supplemental electric heating equipment for heat-pump systems. Include the heat-pump compressor(s) at 100%. If the heat-pump compressor is prevented from operating with the supplement heat, omit the compressor. _____ x 65% = _____	A	
7. Total Volt-Ampere Demand Load: _____ + _____ = (largest VA rating from line 6a through 6c) (line 5)		7	
8. Minimum Amperes Divide the total Volt-amperes by the voltage. _____ ÷ _____ = (line 7) (voltage)	8		
9. Minimum Size Service or Feeder 240.6(A)	(minimum amperes)	9	(minimum is 100 amperes)
10. Size the Service or Feeder Conductors. Use 310.15(B)(6) to find the service conductors up to 400 amperes. Ratings in excess of 400 amperes shall comply with Table 310.16. 310.15(B)(6) also applies to feeder conductors serving as the main power feeder.	Minimum Size Conductors	10	
11. Size the Grounding Electrode Conductors. Use line 10 to find the grounding electrode conductor in Table 250.66. Size the Equipment Grounding Conductor (for Feeder). 250.122. Use line 9 to find the equipment grounding conductor in Table 250.122. Equipment grounding conductor types are listed in 250.118.	Minimum Size Conductors	12	